External pancreatic fistula treated by endoscopic ultrasound-guided drainage with a novel lumen-apposing metal stent mounted on a cautery-tipped delivery system

One of the most common causes of external pancreatic fistula is the iatrogenic manipulation of a complex pancreatic fluid collection concomitantly associated with a disconnected pancreatic duct [1,2]. This situation can lead to the development of a high output (up to 400 mL/d) external pancreatic fistula that is difficult to manage and sometimes requires surgery [3]. In 2012, a 40-year-old woman underwent laparoscopic cholecystectomy with a hepaticojejunum Roux-en-Y anastomosis for a congenital Todani's type IV common bile duct cyst. Postoperative pancreatitis resulted in the development of a complex pancreatic fluid collection in the pancreatic head, which was drained percutaneously. Subsequently, an external pancreatic fistula formed with an output of 200 mL/d. In 2014, the patient was referred to us for further evaluation. Endoscopic retrograde cholangiopancreatography (ERCP) showed a normal main pancreatic duct that lacked a clear communication with the collection (● Fig. 1). The injection of contrast through the percutaneous catheter showed the presence of a 4-cm fluid collection (● Fig. 2). Endoscopic ultrasound (EUS)-guided drainage with the placement of plastic stents was planned. At EUS, the collection was accessed from the duodenal bulb with a 19-gauge needle, after which a 0.035-inch guidewire was placed. The needle was then exchanged for an 8.5-Fr cystotome, but the collection no longer appeared adjacent to the duodenal wall, probably because it had been pushed away by the guidewire, and major vessels were interposed (● Video 1). Based on our previous experience, we decided to replace the cystotome with a novel cautery-tipped stent delivery system that allows the single-step EUS-guided placement of a lumen-apposing fully covered

metal stent (Hot AXIOS System; Xlumena, Mountain View, California, USA) [4]. The lesion was directly punctured and entered with the system, and an 8×8-mm lumen-apposing fully covered metal stent was delivered under complete EUS guidance (● Fig. 3, ● Video 1).

The output significantly dropped the following day, allowing removal of the external catheter 2 days after the procedure. The patient was discharged and remains well 3 months later, without any symptoms.

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Competing interests: Alberto Larghi is a consultant for xlumena.

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Fig. 1 Endoscopic retrograde cholangiopancreatography in a patient with a complex pancreatic fluid collection and a high output external pancreatic fistula shows a normal main pancreatic duct (arrow) that lacks a clear communication with the collection.

Fig. 2 The injection of contrast through the percutaneous catheter reveals the presence of a 4-cm fluid collection (arrow).

Fig. 3 Endoscopic view of the Hot AXIOS System from the duodenal bulb.

Video 1

Single-step endoscopic ultrasound-guided placement of a lumen-apposing fully covered metal stent (Hot AXIOS System) under endoscopic ultrasound guidance to drain an external pancreatic fistula.

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